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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,669	02/28/2002	Kazuo Tanaka	Q68748	2520

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EXAMINER

CULLER, JILL E

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,669

Applicant(s)

TANAKA ET AL.

Examiner

Jill E. Culler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 202. See Fig. 11.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 19, line 5, "The print head 61" appears to be incorrect. In the figures and elsewhere in the specification, the print head is designated as 62. Also, previously in the specification and figures, reference numeral 61 has been used to designate a paper detector.

On page 26, both guide plate 224, line 3, and guide plate 223, line 16, are referred to as a second guide plate.

The specification is replete with grammatically improper language. The specification should be revised carefully in order to replace these terms with proper,

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idiomatic English. Examples of some grammatically improper language used in the specification are: On page 5, line 7, "assembly capable of being printer" is confusing. On page 18, line 1, the phrase "On the other hand" is used in an unusual context. On page 18, line 17, "moved in the reciprocation manner" is awkward. On page 23, lines 10-11, "are made stood as projections" is confusing.

Appropriate correction is required.

Claim Objections

3. Claims 1-8 and 10-12 are objected to because of the following informalities:

In claim 1, on line 7, the phrase "placed in a first side of the print head" is confusing, because from the disclosure it appears that the frame is on a side of the print head, but not actually in the print head.

In claim 3, on line 2, the phrase "situated at a substantially center" is awkward and could be rewritten to be less confusing.

In claim 10, on line 6, it appears that the word "circulating" should be "circulates" instead.

In claim 10, on line 11, the phrase "placed in a first side of the print head" is confusing, because from the disclosure it appears that the frame is on a side of the print head, but not actually in the print head.

In claim 11, online 2, the phrase "placed in a second side of the print head" is confusing, because from the disclosure it appears that the frame is on a side of the print head, but not actually in the print head.

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In claim 11, lines 2-3, the phrase "an opposite side of the first side" is awkward and could be rewritten to be less confusing.

In claim 11, on line 5, the recitation of "the looped guide member" has no antecedent basis.

In claim 12, on line 2, the recitation of "the first guided member" has no antecedent basis.

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,520,622 to Yusef et al.

Yusef et al. teaches a printer, 10, in which printing is performed on a recording medium, 19, which is transported in a first direction; comprising, a carriage, 30, reciprocally moved in a second direction which is perpendicular to the first direction, see column 3, lines 65-67, a print head, 12, mounted on the carriage, the print head

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having a head face, a first frame, 60, placed on a first side of the print head, and a first guide plate, 64, extending in the second direction which includes a first portion, 641, provided as a part of the first frame, 60, so as to extend in a third direction which is orthogonal to both the first and second directions, a second portion, 642, continued from the first portion so as to extend in the first direction, the second portion supporting the carriage so as to define a distance between the head face and the recording medium, and a third portion, 643, continued from the second portion so as to extend in a fourth direction opposite to the third direction. Yusef et al. also teaches the carriage has a first guide member, 352, which is slid on a first face, 65, of the second portion, 643, of the first guide plate, 64, on a line situated substantially at the center of the second portion of the first guide plate, when the carriage moves in the second direction. Yusef et al. further teaches that either one of the first portion, 641, or the third portion, 643, of the first guide plate, 64, defines a position of the carriage in the first direction, and the carriage is provided with a second guide member, 38, which grips the third portion, 643, of the first guide plate, 64, so that the second guide member, 38, is slid thereon when the carriage moves in the second direction. Yusef et al. also shows that the carriage has a third guide member, 354, which is slid on a second face, 66, of the second portion, 642, of the first guide plate, 64, when the carriage moves in a second direction and the second face, 66, is an opposite face of the first face, 65.

6. Claims 10-12 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,867,188 to Murayama et al.

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Murayama et al. teaches a printer, 10, in which printing is performed on a recording medium, which is transported in a first direction, comprising a first guide plate, 12, extending in a second direction which is perpendicular to the first direction, see column 7, lines 1-3, a looped belt member, a drive motor, which circulates the looped belt member in the second direction, see column 6, lines 64-67, and a head assembly, 70, including a print head, 60, a belt holder, 72a, at which a part of the looped belt is fixed, and a first guided portion, 75b, provided on a first side of the print head and slid on the first guide plate, 12, in accordance with the circulation of the looped belt member. Murayama et al. also shows there is a second guide plate, 13, placed on a second side of the print head, which is an opposite side from the first side, so as to extend in the second direction, and the head assembly, 70, includes a second guided portion, 71a, slid on the second guide plate, 13, in accordance with the circulation of the looped guide member. Murayama et al. further shows that the first guided portion, 75b, is slidably held on the first guide plate, 12, while defining a position of the print head in the first direction and the head assembly, 70, includes a third guided portion, 72, slidably held on the first guide plate, 12, while defining a position of the print head in a third direction which is orthogonal to both of the first and second directions.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yusef et al. in view of Murayama et al.

Yusef et al. teaches all that is claimed, as in the above rejection of claims 1-6 except for a second frame, placed in a second side of the print head, opposite of the first side, a second guide plate, extending in the second direction which includes a fourth portion, provided as a part of the second frame so as to extend in the third direction, a fifth portion, continued from the fourth portion so as to extend in the first direction, the fifth portion supporting the carriage so as to define the distance between the head face and the recording medium, and a sixth portion continued from the fifth portion so as to extend in the fourth direction, and that the carriage has a fourth guide member which is slid on the fifth portion of the second guide plate when the carriage moves in the second direction.

Murayama et al. teaches a printer, having a carriage and print head assembly, also having a second frame, placed in a second side of the print head opposite of the first side, a second guide plate, 13, extending in the second direction which includes a fourth portion, provided as a part of the second frame so as to extend in the third direction, a fifth portion, continued from the fourth portion so as to extend in the first direction, the fifth portion supporting the carriage, 70, so as to define the distance between the head face and the recording medium, and that the carriage has a fourth guide member, 71a, which is slid on the fifth portion of the second guide plate when the carriage moves in the second direction.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the second frame and fourth guide member of Murayama et al. with the carriage and print head assembly of Yusef et al. in order to provide additional guidance and stability for the print head during operation. It would also have been obvious to include a sixth portion of the guide plate, continued from the fifth portion and extending in a fourth direction in order to provide additional structural detail for the guide plate.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,195,836 to Longust et al. in view of U.S. Patent No. 6,109,726 to Lee.

Longust et al. shows a printer, 2, in which printing is performed on a recording medium which is transported in a first direction comprising a carriage, 8, on which a print head, 9, is mounted, reciprocally moved in a second direction which is perpendicular to the first direction, see column 2, lines 64-65, a first frame, 10, including a carriage guide, 60, 62, extending in the second direction such that the carriage moves therealong and supporting legs, 20, extending downward from both side portions of the carriage guide, and a second frame, 50, including first positioning members, 32, which define positions of the supporting legs in the first direction, second positioning members, 64, which define positions of the supporting legs in the second direction, third positioning members, 42, which define positions of the supporting legs in a third direction which is orthogonal to both of the first and second directions, and a supporting base, 50.

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Longust et al. does not teach the distinction between a recording region in which the print head performs printing and a home position, provided in one of both sides of the recording region in the second direction at which the carriage is placed when the print head does not perform printing.

Lee teaches a printer with a carriage, 40, having a recording region in which the print head, 51, performs printing and a home position, 60, at a side of the recording region in the second direction at which the carriage is placed when the print head does not perform printing. See Fig.1 and column 1, lines 20-27 in particular.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the printer of Longust et al. with a recording region and a home position, as taught by Lee, in order to be able to more readily service the print head when it is not performing printing.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,547,089 to Jung et al., U.S. Patent No. 4,643,602 to Ikeda et al. and U.S. Patent No. 5,368,403 to Broder et al. each teach a printer having a print head and carriage with obvious similarities to the claimed subject matter.

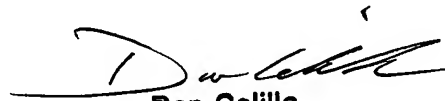
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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (703) 308-1413. The examiner can normally be reached on M-Th 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (703) 305-6619. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

jec
May 19, 2003



Dan Colilla
Primary Examiner
Art Unit 2854